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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,770	03/07/2006	Takeaki Itsuji	03500.521604.	5252

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EXAMINER

SORIANO, BOBBY GILES

ART UNIT	PAPER NUMBER
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3769

MAIL DATE	DELIVERY MODE
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09/21/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/570,770	Applicant(s) ITSUJI ET AL.	
	Examiner Bobby Soriano	Art Unit 3769	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-12 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-12 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Examiner acknowledges the amendment filed on October 30, 2009, wherein claims 1, 3, 5-12, and 15 are pending.

Response to Arguments

The Examiner notes that this application has been transferred from the previous Examiner, Atia Syed. Accordingly the Applicants are invited to request an interview to discuss any issues/comments not currently made of record.

Applicants' arguments filed October 30, 2009 have been fully considered but they are not persuasive.

The Applicants' arguments are directed towards the rejection of claims 1, 3 and 5-15 under 35 U.S.C. 103(a) over U.S. Patent No. 6,336,045 (Brooks) in view of U.S. Patent No. 6,747,736 (Takahashi). In particular the Applicant is arguing that Brooks in view of Takahashi does not anticipate the limitation of claim 1 wherein "biological information extracted from the time waveform is derived from delay times of the first and second electromagnetic waves caused by a change of position in time of a portion of the living body" and attributes this deficiency to the fact that "the delay time of Takahashi is caused by driving the movable reflector [device], and is not seen to be caused by a change of position in time of a portion of a living body" (page 11 of Applicants' arguments). In other words the Applicant is arguing that because the device of Takahashi is moving, and not the object itself, that the claim limitation is not anticipated. However the Examiner disagrees with the Applicant's position because the claim does not require that a portion of a living body moves, but merely the position of the portion of a living

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body changes. Although Takahashi discloses the device moving as opposed to the target object moving, the limitation is still anticipated because the movement of the device still causes a change in position of the target object relative to the device. Accordingly, without any other matters having been raised, the claims are rejected for substantially the same basis as disclosed in the previous office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (US 6,336,045 B1) in view of Takahashi (US 6,747,736).

1. A method of identification of a living body, comprising the steps of:

a first step of detecting a first electromagnetic wave generated from the living body, wherein the electromagnetic wave includes superposed biological information (figs 11-14, the receiving mechanism 105 and detecting mechanism detect the electromagnetic wave form comprising biological information; column 13, lines 19-51);

a deriving step of deriving a time waveform of using the first and the second the electromagnetic waves (figs 11-14, the detector measures the phase change i.e. time delay,

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amplitude and/or frequency i.e. time wave form of the electromagnetic waves; column 13, lines 19-51; column 14, lines 1-49 and 56-67 and column 15, lines 1-5);

an extracting step of extracting the biological information by filtering the time waveform through a frequency property (the detector extracts the biological information using a frequency property; column 14, lines 19-34); and

a comparing step of comparing the biological information with preliminarily memorized biological information (microprocessor compares the derived time wave form of the electromagnetic waves detected by the detection mechanism with the stored reference information ; column 14, lines 8-18).

Brooks discloses the use of electromagnetic waves (column 4, lines 3-5) for detecting biological information and the biological information extracted from the time waveform is derived from either phase shift, amplitude change and/or frequency change (column 13, lines 19-51; column 14, lines 1-49 and 56-67 and column 15, lines 1-5). Brooks further suggests the use of different frequencies of electromagnetic waves for optimized results depending upon the type of field being used (column 4, lines 21-22; column 9, lines 24-27). Brooks recognizes biometric properties of a subject by detecting electromagnetic waves and processing them to image biometric parameters e.g. finger prints. However, Brooks does not teach that the frequency of electromagnetic waves ranges from 300 GHz to 30 THz i.e. terahertz waves are used and that the biological information is extracted from the time delay caused by change in position of a body over time.

Takahashi, a reference in an analogous art i.e. electromagnetic imaging discloses an imaging system for 2 D analysis of an object wherein the system can detect changes in position

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of an object in real time by performing a frequency analysis to measure the time delay of the terahertz signals emitted by the object (see: *summary of the invention*). Takahashi further discloses that terahertz waves of frequency 100 GHz – 10 THz and neighboring higher and lower frequencies are used (column 1, lines 20-31).

It would have been obvious to one of ordinary skill in the art to substitute the electromagnetic waves used for extracting biological information as disclosed by Brooks with a higher frequency electromagnetic waves i.e. terahertz waves as taught by Takahashi because terahertz waves provides the ideal trade-off between spatial resolution and Rayleigh scattering thus resulting in a better image quality than microwaves or other higher frequency electromagnetic wave e.g. optical waves.

Claims 3, 5-12, and 15 are rejected for substantially the same reasons as disclosed in the previous office action in view of the response to arguments above.

Conclusion

Although the Applicants have filed a request for reconsideration under 37 C.F.R. 1.114, the amendments entered on October 30, 2009 do not require any new grounds of rejection by the Examiner. Accordingly, **THIS ACTION IS MADE FINAL**. Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bobby Soriano whose telephone number is (571)270-7030. The examiner can normally be reached on Monday thru Friday, 10:30am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Johnson III can be reached on 571-272-4768. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bobby Soriano/
Examiner, Art Unit 3769

/Henry M. Johnson, III/
Supervisory Patent Examiner, Art Unit
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September 16, 2010